

Roll Around the Clock Problems

Nora and Alexander are playing *Roll Around the Clock*. For each round, find the sum of their rolls and circle who wins the point. If it is a tie, write "tie" next to the round.

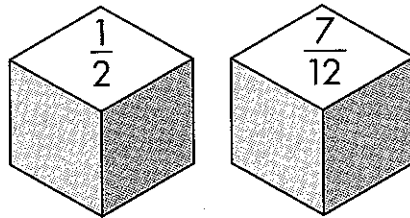
NOTE Using the distance around a clock as a model, students practice adding fractions with related denominators.

SMH 52–53,
G12–G13

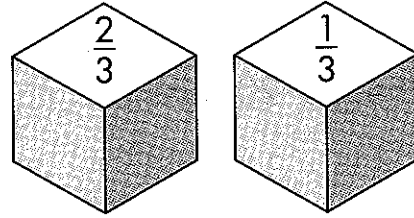
Nora:

Alexander:

Round 1:

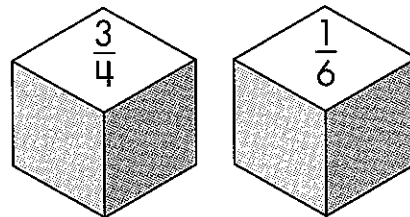


sum: _____

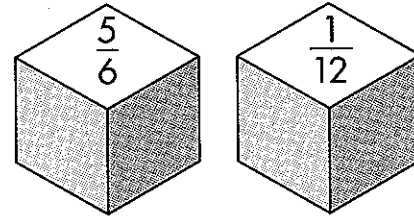


sum: _____

Round 2:

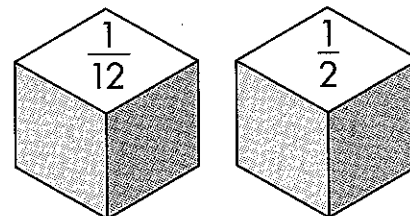


sum: _____

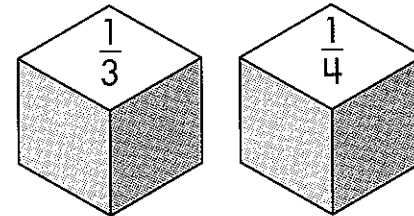


sum: _____

Round 3:

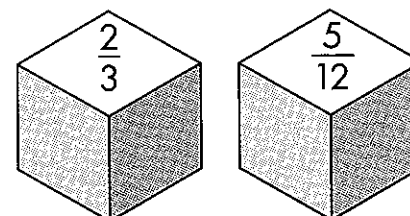


sum: _____

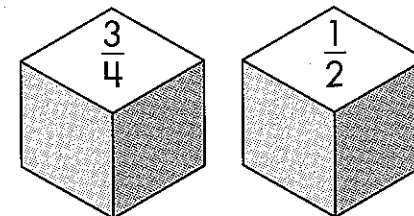


sum: _____

Round 4:



sum: _____

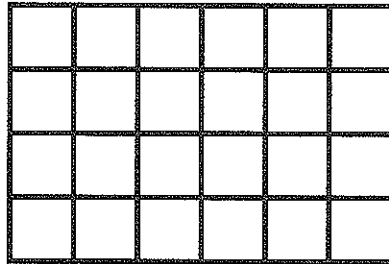
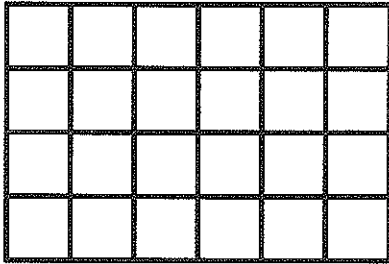


sum: _____

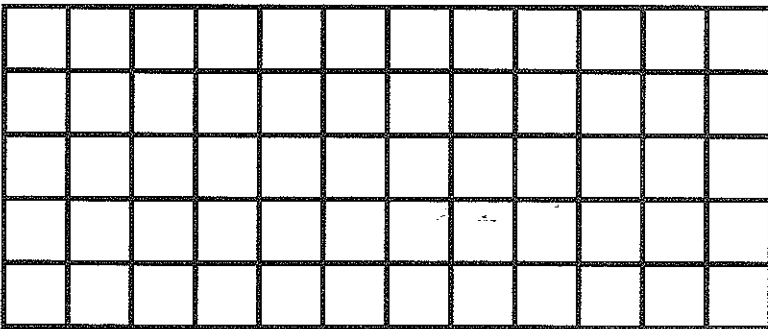
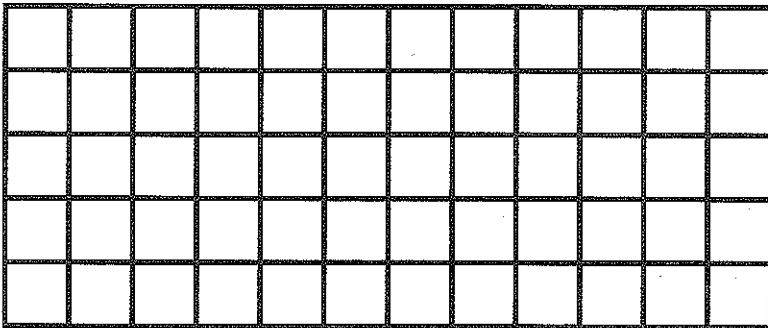
Using Rectangles to Add Fractions

Choose either the 4×6 or 5×12 rectangles to show how to solve $\frac{1}{3} + \frac{5}{12} = \underline{\hspace{2cm}}$.

4×6 Rectangles



5×12 Rectangles



Adding and Subtracting Fractions

Solve each problem below. Explain how you found the answer.

1. $\frac{1}{4} + \frac{2}{3} =$ _____

2. $\frac{1}{6} + \frac{1}{2} + \frac{1}{4} =$ _____

3. A pizza is cut into 12 equal pieces. Alexander eats $\frac{1}{3}$ of the pizza, Rachel eats $\frac{1}{4}$ of the pizza, and Charles eats $\frac{1}{12}$. What fraction of pizza did they have left?

4. Georgia is a carpenter, and she has a piece of wood that is 10 feet long. She uses $\frac{1}{2}$ of the wood for a book shelf and $\frac{1}{4}$ of the wood for kitchen shelf. How many feet of wood are left? What fraction of the whole piece is that?

5. $\frac{3}{12} + \frac{1}{2} + \frac{2}{3} =$ _____

Roll Around the Clock Equations

Choose a round from the *Roll Around the Clock* game in which you rolled the fraction cubes only **twice** during your turn, and record it as an addition equation.

For example: $1\frac{1}{12} = \frac{1}{3} + \frac{3}{4}$ $\frac{5}{12} + \frac{7}{12} = 1$

1. The fractions I rolled were: _____.

Addition equation: _____

2. The fractions I rolled were: _____.

Addition equation: _____

3. The fractions I rolled were: _____.

Addition equation: _____

Choose a round from the *Roll Around the Clock* game in which you rolled the fraction cubes **more than two times**, and record it as an addition equation.

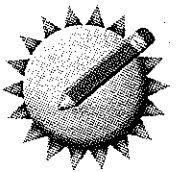
For example: $1 = \frac{2}{3} + \frac{1}{4} + \frac{1}{12}$ $\frac{7}{12} + \frac{1}{3} + \frac{1}{6} = 1\frac{1}{12}$

4. The fractions I rolled were: _____.

Addition equation: _____

5. The fractions I rolled were: _____.

Addition equation: _____



Which Is Closer to 1? Part 1

Find the two totals. Then circle the one that is closer to 1.
Show how you figured out the sums.

NOTE Students add fractions and compare the sums.

SMH 50-53

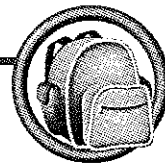
1. $\frac{1}{2} + \frac{7}{12} =$ _____ $\frac{1}{6} + \frac{2}{3} =$ _____

2. $\frac{1}{4} + \frac{1}{3} =$ _____ $\frac{1}{6} + \frac{1}{2} =$ _____

Ongoing Review

3. Samantha won 8 out of the 10 tennis matches she played. What percentage of the games did she win?

A. 8% B. 80% C. $\frac{8}{10}\%$ D. 10%



Practice Adding Fractions

Solve the problems below, explaining your work.

NOTE Students use different models (including the clock or rectangles) and their understanding of equivalent fractions to add fractions.

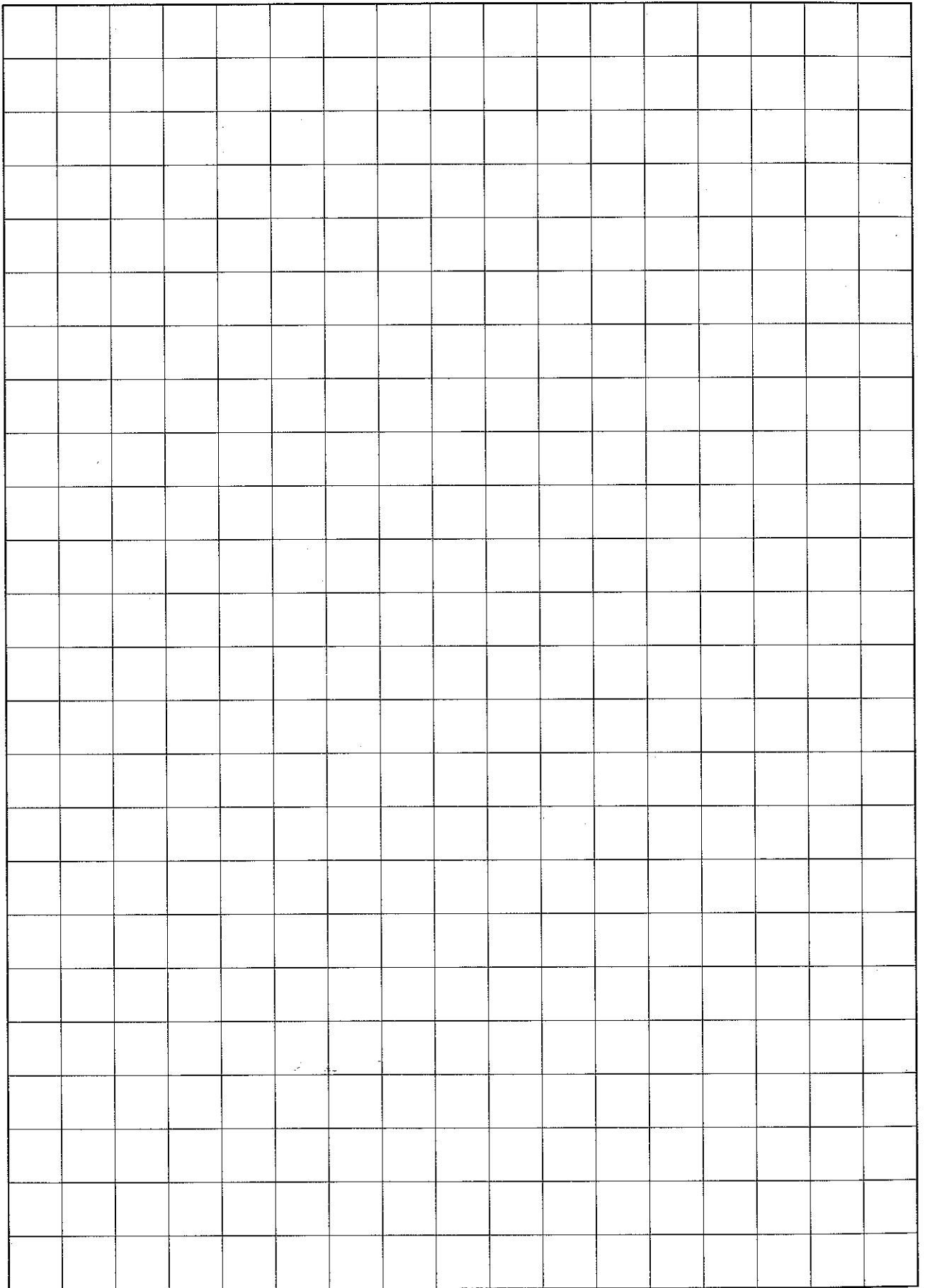
SMH 52-53

Alexander, Rachel, and Olivia had a pizza party. There was a pepperoni, a vegetarian, and a cheese pizza. Each pizza was the same size.

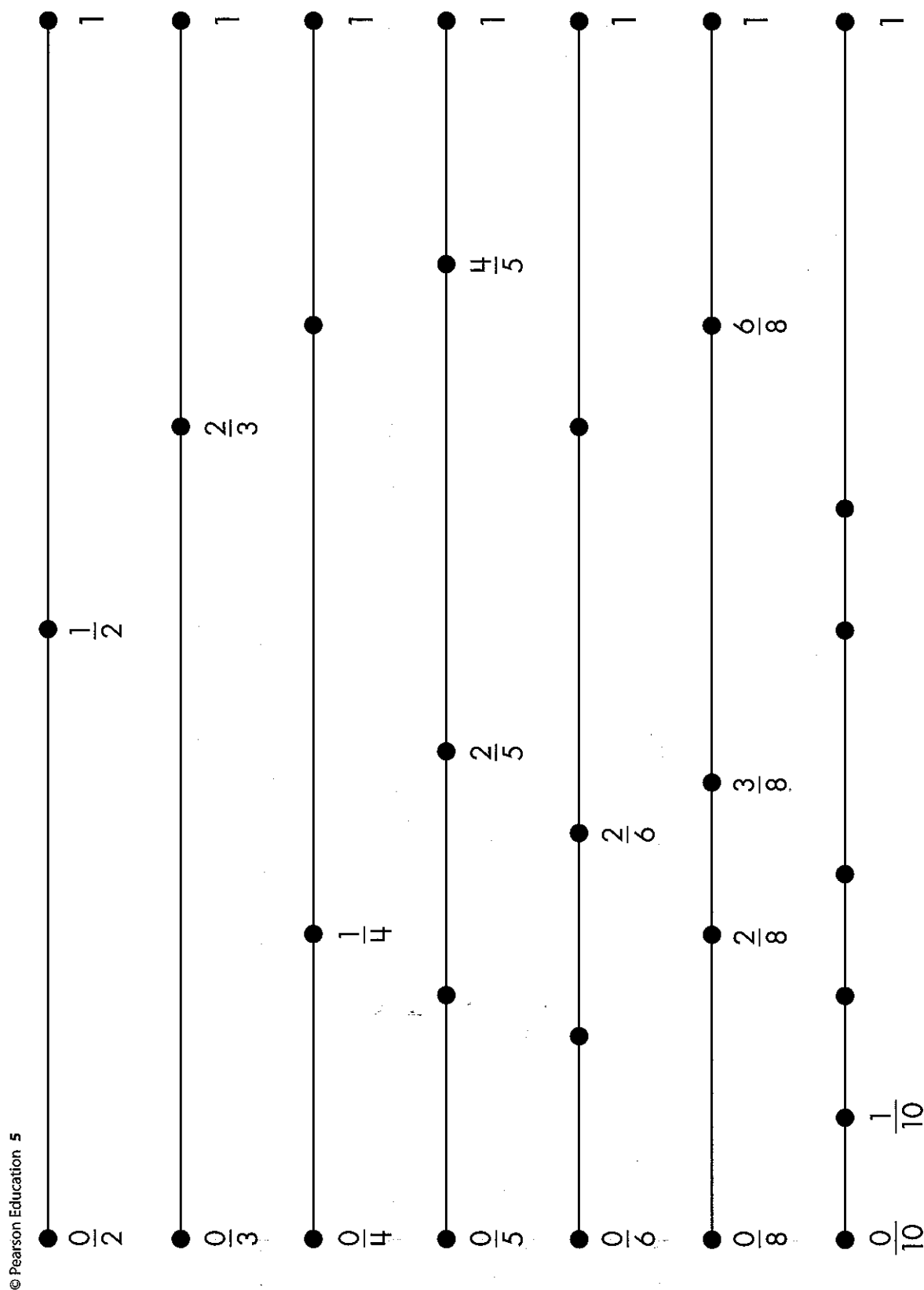
1. Alexander ate $\frac{1}{6}$ of the pepperoni pizza and $\frac{5}{12}$ of the cheese pizza. How much of a pizza did he eat?
2. Rachel ate $\frac{1}{8}$ of the vegetarian pizza and $\frac{1}{4}$ of the cheese pizza. How much of a pizza did she eat?
3. Olivia ate $\frac{1}{6}$ of the pepperoni pizza, $\frac{1}{3}$ of the vegetarian pizza, and $\frac{1}{6}$ of the cheese pizza. How much of a pizza did she eat?

4. $\frac{1}{5} + \frac{3}{10} = \underline{\hspace{2cm}}$

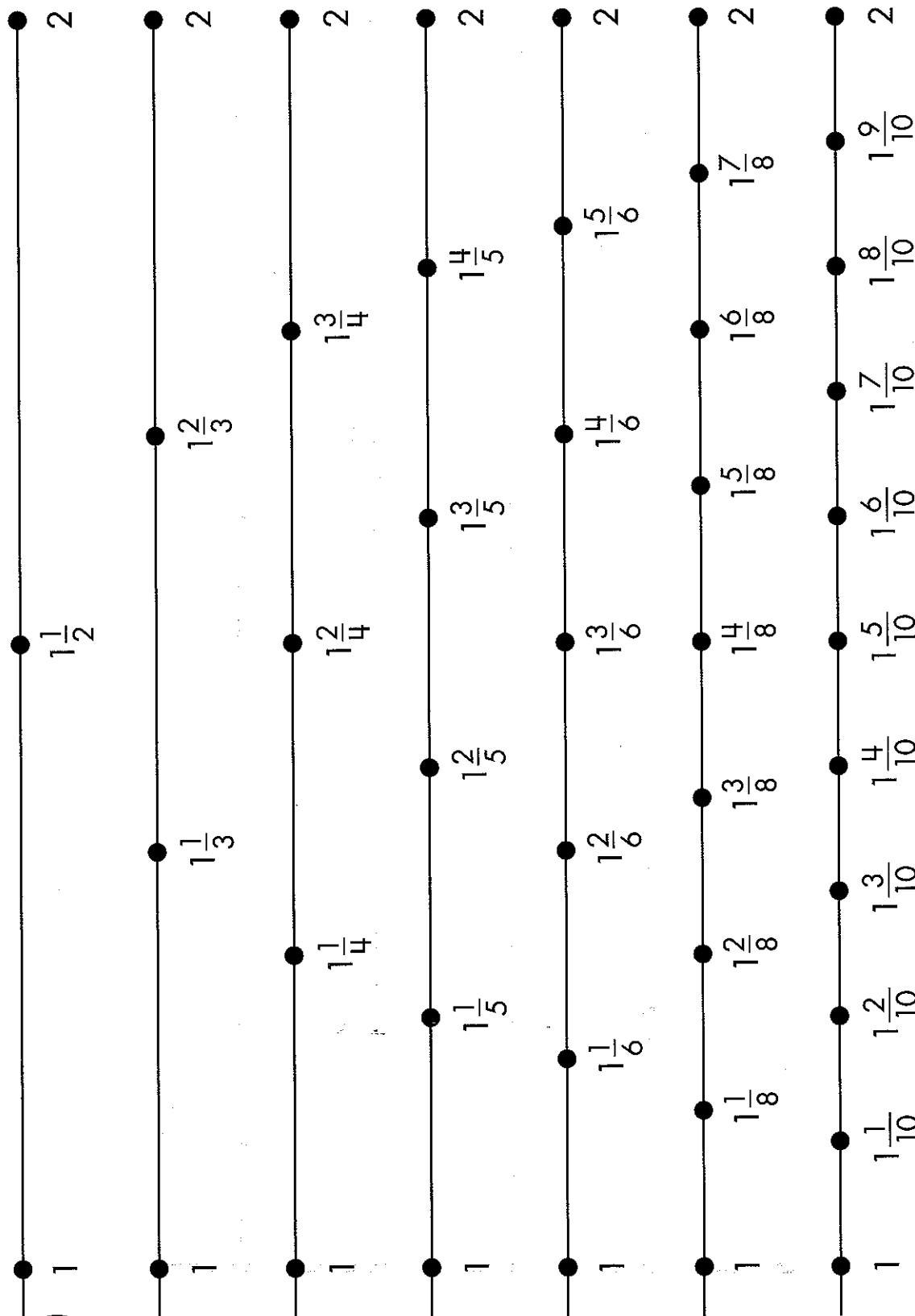
5. $\frac{2}{3} + \frac{5}{6} = \underline{\hspace{2cm}}$

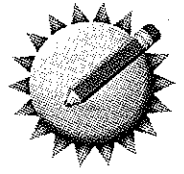


Fraction Tracks (page 1 of 2)



Fraction Tracks (page 2 of 2)





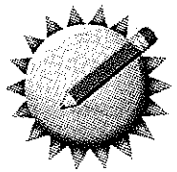
Reading Challenge

Solve each of the following problems. Show your work clearly. Be sure to answer the question posed by the story.

NOTE Students practice solving subtraction problems in story contexts.

SMH 10-13

1. A city library held a reading challenge to see how many books the students could read in June, July, and August. They hoped that the students would read a total of 20,000 books. By the end of June, the students had read 6,837 books. How many more books did they need to read to reach 20,000 books?
2. By the end of July, the students had read 14,288 books. How many more books did they need to read in August in order to read 20,000 altogether?
3. In all, the students read 22,681 books this summer. Next year the library will increase the reading challenge goal to 25,000 books. How many more books will that be, compared with the total they read this summer?
4. Last summer, students in the city read 17,589 books. If they read 22,681 this summer, how many more books did they read?



Which Is Closer to 1?

Part 2

NOTE Students add fractions and compare the sums.

SMH 50-53

Find the two totals. Then circle the one that is closer to 1. Show how you figured out the sums.

1. $\frac{5}{10} + \frac{2}{5} =$ _____

$\frac{4}{12} + \frac{2}{4} =$ _____

2. $\frac{3}{4} + \frac{1}{4} =$ _____

$\frac{2}{8} + \frac{2}{4} =$ _____

Ongoing Review

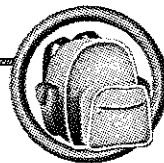
3. Felix loves to play checkers. He won 150 out of the last 200 games he played. What percentage of the games did he win? Circle the answer. Show how you figured it out.

A. 150%

B. 100%

C. 75%

D. 50%



More Roll Around the Clock Problems

Renaldo and Hana are playing *Roll Around the Clock*. For each round, find the sum of their rolls and circle who wins the point. If it's a tie, write "tie" next to the round.

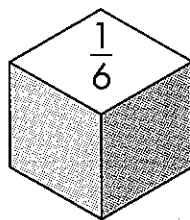
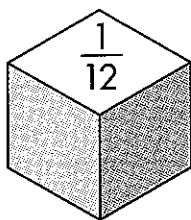
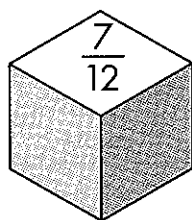
NOTE Using the distance around a clock as a model, students practice adding fractions with related denominators.

SMH 52–53, G12–G13

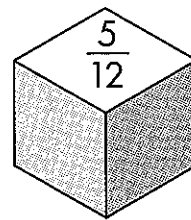
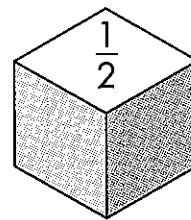
Renaldo:

Hana:

Round 1:

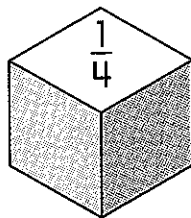
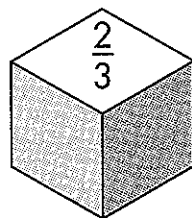


sum: _____

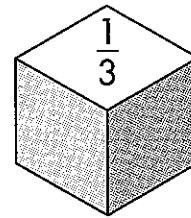
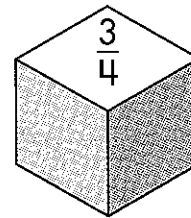


sum: _____

Round 2:

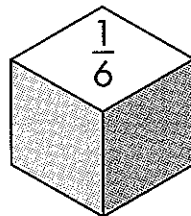
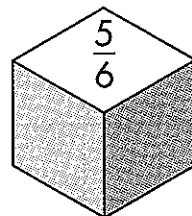


sum: _____

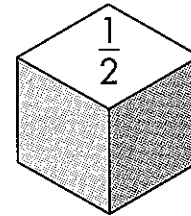
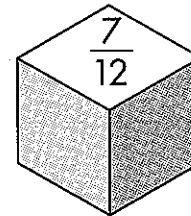


sum: _____

Round 3:

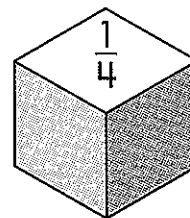
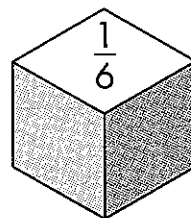
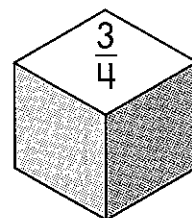


sum: _____

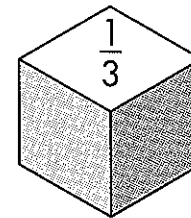
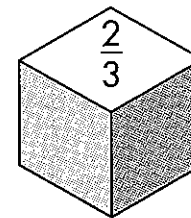


sum: _____

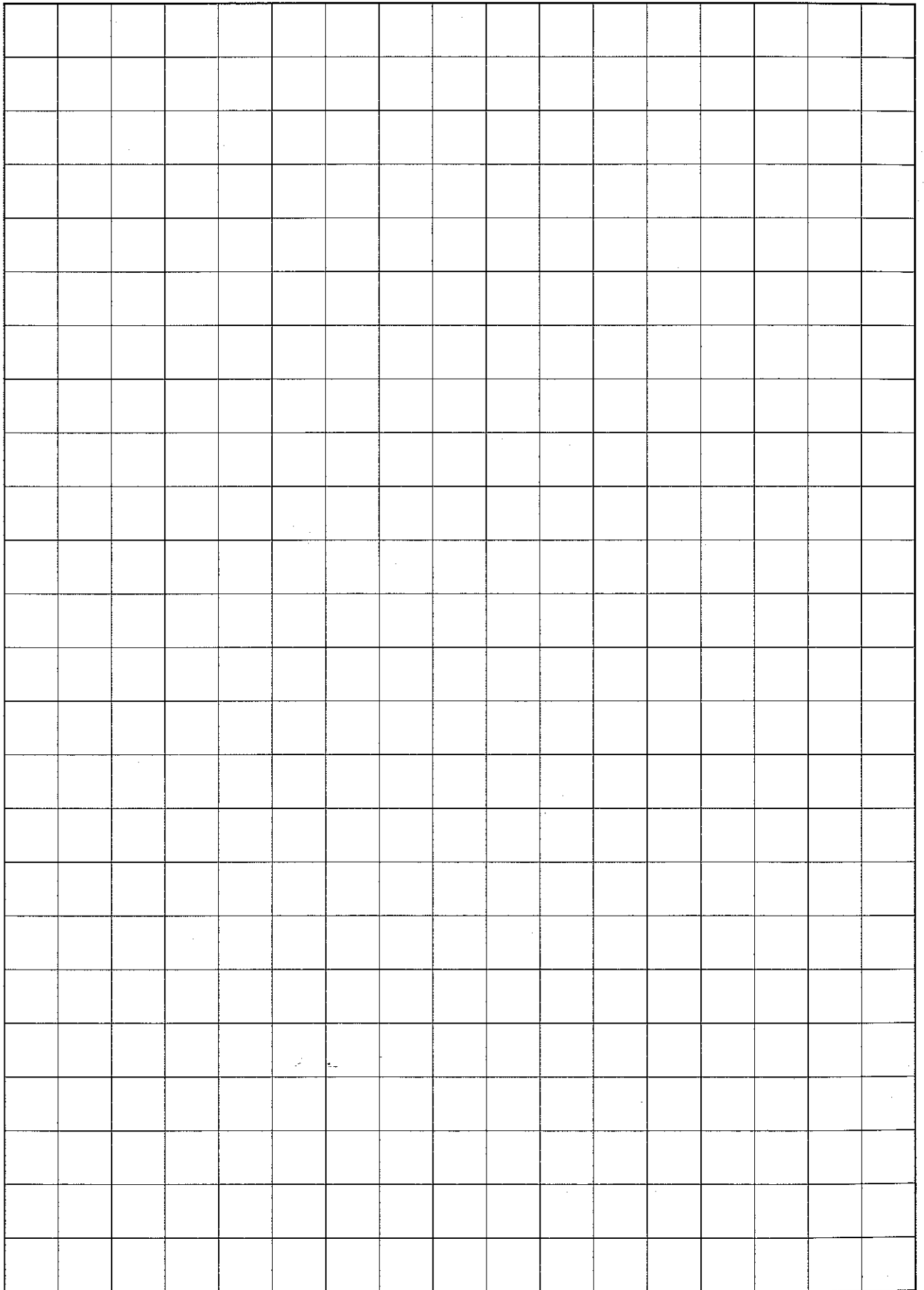
Round 4:

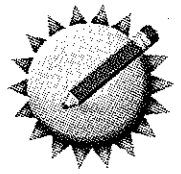


sum: _____



sum: _____





Tallest Mountains

This is a table of some of the world's tallest mountains. Use this table to answer the questions below. Show your work clearly.

NOTE Students practice solving addition and subtraction problems in story contexts.

SMH 8-9, 10-13

Mountain	Continent	Height (in feet)
Mount Everest	Asia	29,035
Aconcagua	South America	22,831
Mount McKinley	North America	20,320
Mount Kilimanjaro	Africa	19,563
Mount Elbrus	Europe	18,481
Vinson Massif	Antarctica	16,066
Mount Kosciuszko	Australia (mainland)	7,310

1. How much taller is Mount Everest than Aconcagua?
2. How much taller is Mount McKinley than Mount Kosciuszko?
3. How much taller is Mount Kilimanjaro than Vinson Massif?
4. Which mountain is 1,839 feet taller than Mount Elbrus?



Equivalents

List at least 5 equivalent fractions for each fraction below.

NOTE Students find equivalent fractions.

SMH 44

1. $\frac{1}{2} =$

2. $\frac{1}{3} =$

3. $\frac{3}{4} =$

4. $\frac{2}{5} =$

Fraction Track Equations

Record moves that involve **more than one track** from the rounds of the *Fraction Track* game you are playing.

Write your moves as addition problems.

For example:

$$\boxed{\frac{7}{8}} \quad \frac{7}{8} = \frac{1}{2} + \frac{1}{4} + \frac{1}{8}$$

$$\boxed{\frac{3}{4}} \quad \frac{1}{2} + \frac{1}{4} = \frac{3}{4}$$

1. The fraction on my card was _____.

Addition equation: _____

2. The fraction on my card was _____.

Addition equation: _____

3. The fraction on my card was _____.

Addition equation: _____

Record moves that involve moves on **two tracks** from the rounds of the *Fraction Track* game you are playing.

Write your moves as addition and subtraction problems.

For example:

$$\boxed{\frac{5}{6}} \quad \frac{5}{6} = \frac{1}{2} + \frac{1}{3} \quad \frac{5}{6} - \frac{1}{3} = \frac{1}{2}$$

4. The fraction on my card was _____.

Addition equation: _____

Subtraction equation: _____

5. The fraction on my card was _____.

Addition equation: _____

Subtraction equation: _____

Fraction Problems (page 1 of 3)



Solve these problems. Show or explain how you solved them.

1. Shandra and Tyler made two loaves of bread. On Monday, they ate $\frac{1}{2}$ of one loaf. On Tuesday, they ate $\frac{1}{3}$ of one loaf. How much bread was left?

2. $\frac{3}{8} + \frac{1}{4} + \frac{4}{4} = \underline{\hspace{2cm}}$

3. $2 - \frac{2}{3} = \underline{\hspace{2cm}}$

Fraction Problems (page 2 of 3)



Solve these problems. Show or explain how you solved them.

4. There are 6 brownies on a plate. Margaret ate $1\frac{1}{2}$ brownies. Charles ate $2\frac{1}{4}$ brownies. Tyler ate $1\frac{3}{4}$ brownies. How many brownies are left on the plate?

5. $\frac{3}{4} + \frac{9}{6} =$ _____

6. $\frac{4}{4} - \frac{1}{3} =$ _____

Fraction Problems (page 3 of 3)

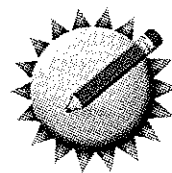


Solve these problems. Show or explain how you solved them.

7. Is this equation true or false? $\frac{7}{8} + \frac{7}{8} = 1\frac{3}{4}$
Explain how you know.

8. Is this equation true or false? $\frac{4}{4} - \frac{2}{2} = \frac{3}{3}$
Explain how you know.

9. Cecilia is wrapping presents for her sister's birthday. She has 10 feet of ribbon. She uses $2\frac{1}{2}$ feet to wrap one present, $3\frac{1}{3}$ feet to wrap another present, and $1\frac{3}{4}$ feet to wrap the third present. If she needs 2 feet for the last present, does she have enough ribbon left?



Less Than, Greater Than, or Equal To? Part 1

Choose one of these symbols to fill in the blank to show whether the two expressions are equal or whether one is greater than the other. Explain your thinking.

NOTE Students decide whether two expressions that involve addition and subtraction of fractions and mixed numbers are equal or whether one is greater than the other. Students may solve for the sum or difference of each expression, or they may be able to reason about the relationships of the fractions without actually solving. For example, in Problem 3, because $\frac{12}{8} = \frac{3}{2}$ and less is subtracted from $\frac{12}{8}$ than from $\frac{9}{6}$, the first expression must be greater than the second.

SMH 45, 50–53

= equal

$$4 + 3 = 3 + 4$$

< less than

$$5 + 7 < 7 + 7$$

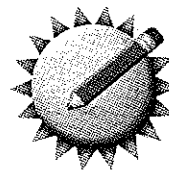
> greater than

$$6 + 6 > 5 + 5$$

1. $\frac{1}{4} + \frac{3}{4}$ _____ $\frac{3}{2} - \frac{1}{2}$

2. $\frac{10}{12} + 1\frac{1}{2}$ _____ $\frac{3}{4} + 1\frac{1}{4}$

3. $\frac{12}{8} - \frac{1}{6}$ _____ $\frac{9}{6} - \frac{1}{2}$



Missing Digits

Fill in the missing digits in each problem.
Show how you found the missing digits.

NOTE Students practice solving addition and subtraction problems.

SMH 8-9, 10-13

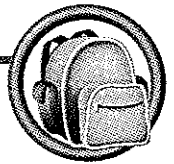
1.
$$\begin{array}{r} 1 \quad 2,000 \\ - \quad _,9__4 \\ \hline 5,056 \end{array}$$

2.
$$\begin{array}{r} 33__ \\ 5__7 \\ + __48 \\ \hline 1,300 \end{array}$$

Can you find four digits to complete these problems?
Is it possible or impossible? Explain your thinking.

3. $9,724 + ______ = 20,000$

4. $12,000 + ______ = 2,487$



Moves on the *Fraction Track*

Imagine that you are playing the *Fraction Track* game with the board that goes from 0 to 2. All your markers are on 0. Find different combinations of ways you can move on 2 tracks, 3 tracks, or 4 tracks.

NOTE Students have been playing a game in which they find different sums that equal a given fraction.

SMH 52–53

For example, if you draw $\frac{7}{8}$, you can move:

On two tracks: $\frac{1}{2} + \frac{3}{8}$

On three tracks: $\frac{1}{2} + \frac{1}{4} + \frac{1}{8}$

On four tracks: $\frac{1}{3} + \frac{1}{6} + \frac{1}{4} + \frac{1}{8}$

Find some different ways you could move if you got these fraction cards.

1. Your fraction card is $\frac{10}{10}$. What are some ways you could move?

On two tracks:

On three tracks:

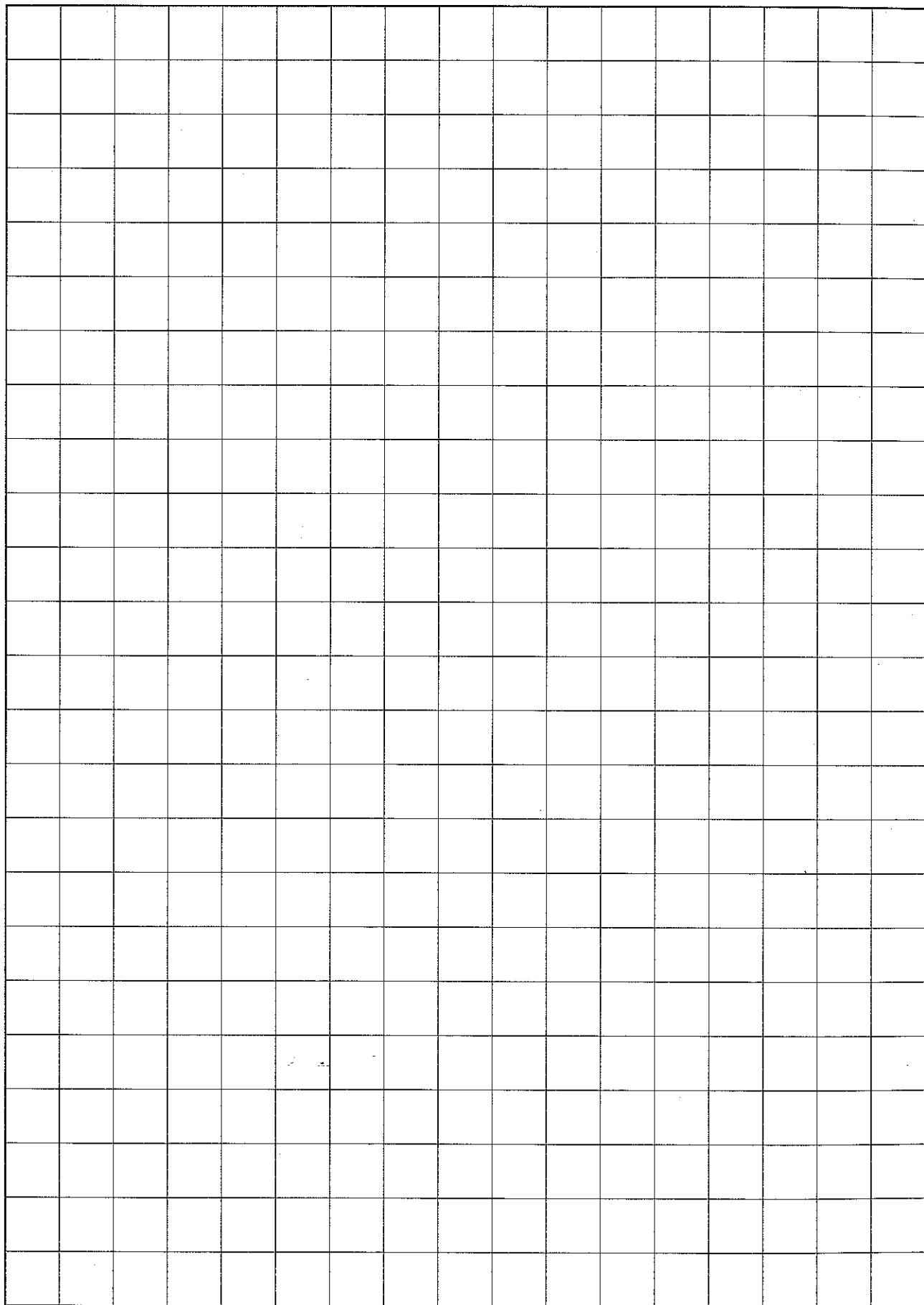
On four tracks:

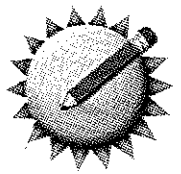
2. Your fraction card is $\frac{12}{8}$. What are some ways you could move?

On two tracks:

On three tracks:

On four tracks:





Less Than, Greater Than, or Equal To?

Part 2

Choose one of these symbols to put in the blank to show whether the two expressions are equal or whether one is greater than the other. Explain your thinking.

= equal

$$4 + 3 = 3 + 4$$

< less than

$$5 + 7 < 7 + 7$$

> greater than

$$6 + 6 > 5 + 5$$

NOTE Students decide whether two expressions that involve addition and subtraction of fractions and mixed numbers are equal or whether one is greater than the other. Students may solve for the sum or difference of each expression, or they may be able to reason about the relationships of the fractions without actually solving.

SMH 45, 50–53

1. $\frac{3}{6} + \frac{4}{8} + 2$ _____ $1\frac{1}{2} + \frac{5}{10} + 1\frac{1}{4}$

2. $3\frac{3}{4} - \frac{7}{8}$ _____ $3\frac{1}{4} - \frac{6}{8}$

3. $\frac{2}{3} + 1\frac{1}{2} + \frac{6}{10}$ _____ $\frac{15}{10} + \frac{3}{5} + \frac{4}{6}$



More Moves on the Fraction Track

NOTE Students have been playing a game in which they find different sums that equal a given fraction.

SMH 52-53

Suppose that you are playing the *Fraction Track* game with the board that goes from 0 to 2. All your markers are on 0. Find different combinations of ways you can move on 2 tracks, 3 tracks, or 4 tracks.

For example, if you draw $\frac{7}{8}$, you can move:

On two tracks: $\frac{1}{2} + \frac{3}{8}$

On three tracks: $\frac{1}{2} + \frac{1}{4} + \frac{1}{8}$

On four tracks: $\frac{1}{3} + \frac{1}{6} + \frac{1}{4} + \frac{1}{8}$

Find some different ways you could move if you got these fraction cards.

1. Your fraction card is $\frac{9}{6}$. What are some ways you could move?

On two tracks:

On three tracks:

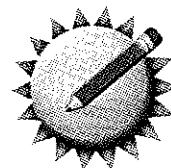
On four tracks:

2. Your fraction card is $\frac{12}{10}$. What are some ways you could move?

On two tracks:

On three tracks:

On four tracks:

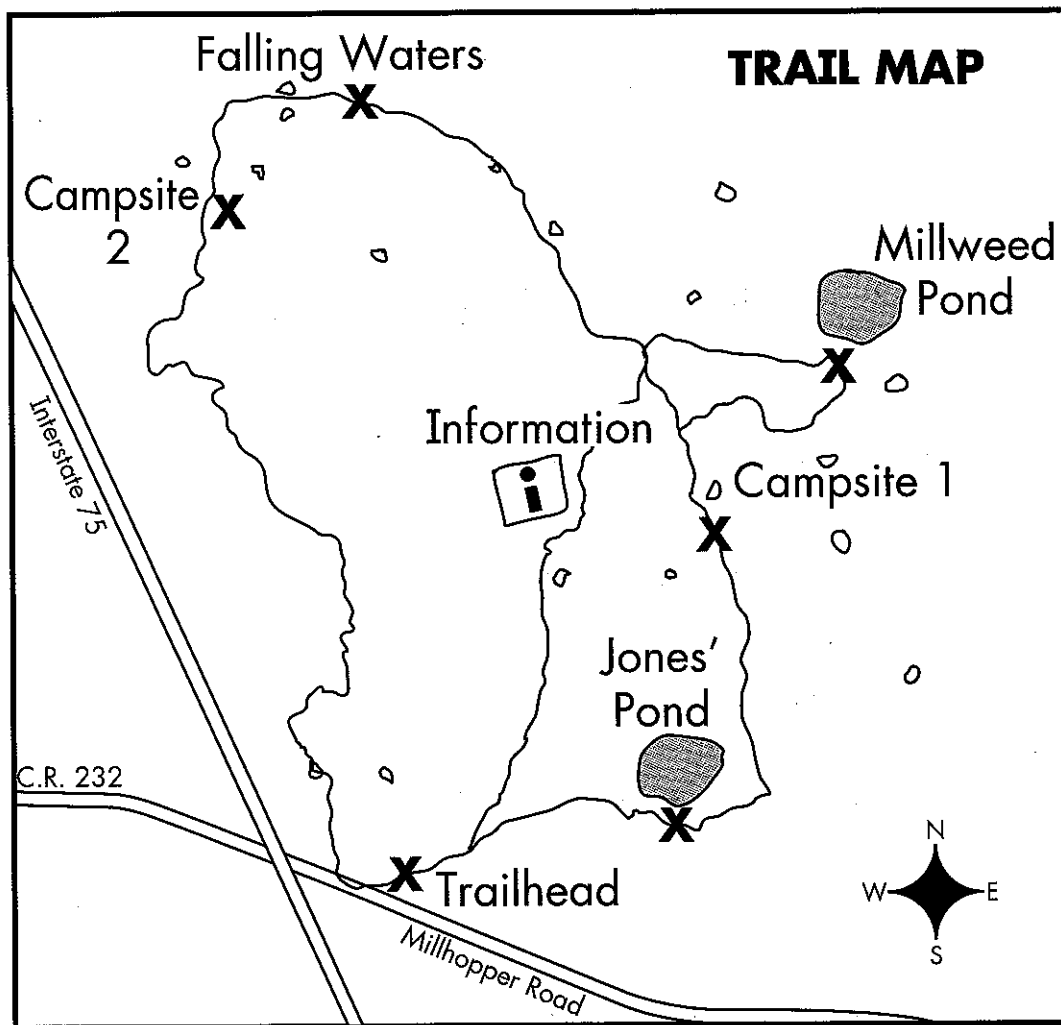


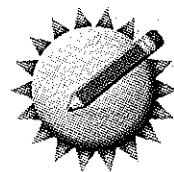
Going the Distance (page 1 of 2)

A scout troop is going on a hiking trip to a nearby state park.

NOTE Students solve real-world problems involving the math content of this unit.

SMH 52-53





Going the Distance (page 2 of 2)

The table shows the distances along different parts of the trail.

Landmarks	Distance in miles	Landmarks	Distance in miles
Trailhead to Jones' Pond	$\frac{3}{5}$	Trailhead to Campsite 2	2
Trailhead to Campsite 1	$1\frac{1}{2}$	Millweed Pond to Falling Waters	$1\frac{1}{4}$
Campsite 1 to Falling Waters	$1\frac{1}{2}$	Campsite 1 to Millweed Pond	$\frac{7}{8}$

The scouts will camp at Campsite 1.

1. How far is it from the Trailhead to Campsite 1?
2. Some scouts want to swim at Millweed Pond and others want to swim at Jones' Pond.
 - a. How far is it from Campsite 1 to Jones' Pond?
 - b. How far is it from Campsite 1 to Millweed Pond?
 - c. Which pond is closer to Campsite 1?
3. The scouts will hike from Campsite 1 to Millweed Pond, and then to Falling Waters where they will have lunch. How long is that hike?
4. Some scouts decide to hike back from Falling Waters to Campsite 1 along the shorter route. How much shorter will their hike be than if they go back by way of Millweed Pond?